OPERATORS MANUAL

for the

ORS-2000 Series Irrigation Solution Warming System

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OPERATORS MANUAL

INTRODUCTION

The ORS-2000 Series Solution Warming System is designed to provide controlled warming for irrigation solutions. It is not intended as a blood warmer.

Any reference to a model includes all versions of that model (eg. ORS-2066 includes ORS-2066 and ORS-2066D and ORS-2066R).

IMPORTANT LABELS AND INDICATORS

Temperature Control

Power - When lit indicates unit is on

Serial Number & Ratings

DANGER: RISK OF EXPLOSION IF USED IN THE PRESENCE OF FLAMMABLE ANESTHETICS.

CAUTION: FOR THE ORS-2038 AND ORS-2058 WARMING MACHINES: DO NOT OPERATE WARMING MACHINE WITHOUT A MINIMUM OF 500 mL SOLUTION IN THE ORS APPROVED DRAPE.

FOR THE ORS-2057, ORS-2066 AND ORS-2094 WARMING MACHINES: DO NOT OPERATE WARMING MACHINE WITHOUT A MINIMUM OF 750 mL SOLUTION IN THE ORS APPROVED DRAPE.

FOR THE ORS-2075 WARMING MACHINE: DO NOT OPERATE WARMING MACHINE WITHOUT A MINIMUM OF 1500 mL SOLUTION IN THE ORS APPROVED DRAPE.

CAUTION: ELECTRIC SHOCK HAZARD, DO NOT REMOVE PROTECTIVE PANEL. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

WARNING: RISK OF FIRE. REPLACE FUSE AS MARKED:
250V 3A TIME DELAY.

NOTE: GROUNDING RELIABILITY CAN ONLY BE ACHIEVED WHEN THIS EQUIPMENT IS CONNECTED TO AN EQUIVALENT RECEPTACLE MARKED "HOSPITAL ONLY" OR "HOSPITAL GRADE."

CAUTION: POWER MUST BE OFF UNTIL MINIMUM FLUID LEVEL IS POURED INTO DRAPE.

TEMPERATURE CONTROLS

1. Upper indicator (PV - Present value) indicates present temperature of solution.

2. Lower indicator (SV - Set value) indicates the temperature the solution is set to warm to.

3. AL lights when Present Value is 4°F greater than Set Value.

4. °F indicates solution/set point temperature readouts are in Fahrenheit.*

5. SP1 lights when heating element is active.

6. SP2 is not applicable.

7. ▲ ▼ used to increase/decrease temperature setting (SV).

*Centigrade readout available upon request.

OPERATING INSTRUCTIONS

A. Drape solution warmer with O.R. Solutions, Inc. warmer drape. Make sure power switch is OFF before draping.

B. Pour solution into drape, making sure that minimum fluid requirements are maintained.

C. Adjust drape to ensure uniform contact with the basin walls i.e. no air pockets or folds.

D. Depress POWER switch to turn machine on.

E. To select temperature:
   - Step 1. Press index.
   - Step 2. Adjust set temperature to desired setting using up/down arrows
   - Step 3. Press enter.
   - Step 4. Press index.

F. Depress POWER switch to turn machine off. (Do not turn off by pulling power cord from outlet.)

G. Discard solution and drape per hospital guidelines.

NOTES: NEVER TURN SOLUTION WARMER ON BEFORE MINIMUM FLUID REQUIREMENT IS POURED INTO THE DRAPE.

DO NOT UNPLUG SOLUTION WARMER UNTIL POWER SWITCH HAS BEEN TURNED OFF.

THE ORS-2000 SERIES SOLUTION WARMER IS PART OF A WARMING SYSTEM THAT INCLUDES THE O.R.SOLUTIONS® WARMER DRAPE. O.R.SOLUTIONS® WARMER DRAPES MUST BE USED WITH ALL ORS-2000 SERIES SOLUTION WARMERS TO ENSURE OPTIMAL PERFORMANCE AND SAFETY.

MAINTENANCE

ORS-2000 Series Irrigation Solution Warmer

1. Care of Solution Warmer after each use:

   The ORS-2000 Series Solution Warmer is designed to require minimal maintenance. After each use, the Solution Warmer should be cleaned with a lint free cloth and isopropyl alcohol. This is particularly important for the stainless steel basin of the Solution Warmer; the alcohol helps dry the basin to prevent corrosion.

   The Solution Warmer basin should be scrubbed with a non-abrasive cleanser (example: Soft Scrub™), a minimum of once a month. This prevents the build-up of corrosion in the basin. The power cord and plug should also be inspected for any unusual signs of wear or abuse. If abuse or wear is noted, please contact ORS to have the power cord or plug repaired.

2. Temperature Controller verification:

   The ORS 2000 Series Warmer temperature controller should be verified every (5) years. O.R. Solutions, Inc. requires the use of the following items (or equivalent fluid temperature measuring system with no greater manufactures variance than +/- 2º F) to accurately measure the water temperature for verification:
   - Fluke 51II Digital Thermometer
   - 6” Long 0.093” Diameter Type T Needle Thermocouple

   (With the Thermocouple calibrated to the Thermometer)

   Fill the basin 2/3 full of water. Turn the warmer on and adjust the set point (“SV”) to 105º F. Ten (10) minutes after the “PV” temperature equals 105º F on the controller insert the Thermocouple so that the tip is 1” below the surface of the water in the middle of the warmer. If the actual temperature on your CALIBRATED thermometer is equal to or greater than 103º F but less than or equal to 107º F the warmer is within specification. If the warmer is not within that temperature range call O.R. Solutions, Inc. at 800-343-6771.

WARRANTY

O.R. Solutions, Inc. warrants the ORS-2000 Series Solution Warmer against defects in workmanship and materials for one year from the date of shipment to the user. During the warranty period O.R. Solutions, Inc. will, at its option, either repair or replace defective warmers. Improper use and/or treatment of the warmer voids this warranty at the option of O.R. Solutions, Inc.

O.R. SOLUTIONS, INC. DISCLAIMS ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. IN NO CASE WILL O.R. SOLUTIONS, INC. BE LIABLE FOR DIRECT, INDIRECT, CONSEQUENTIAL, ECONOMIC, SPECIAL OR OTHER DAMAGES, INCLUDING, BUT NOT LIMITED TO LOST PROFITS, REGARDLESS OF CAUSE.

TROUBLESHOOTING

ORS-2000 Series Irrigation Solution Warmer

Problem: Corrosion in basin of Solution Warmer.

O.R. Solution: Scrub basin with a non-abrasive cleanser to remove corrosion.

Problem: Power switch does not light up.

O.R. Solution: Check to make sure that the Solution Warmer is plugged in and the outlet is active. Inspect the power cord and plug for wear or abuse. If power switch still does not light up, contact ORS.

Problem: Solution Warmer does not heat up.

O.R. Solution: The light on the LED display of the Temperature Controller should be on. If the light on the LED still is not on, contact ORS. If the light is on, make sure the temperature is adjusted properly (see page 3). If the temperature adjustment is correct but the Solution Warmer does not heat up, contact ORS.

Problem: Solution temperature does not reach set point temperature.

O.R. Solution: Make sure that the temperature is adjusted properly (see page 3). If the temperature adjustment is correct, inspect the drape. The drape should be evenly distributed and in full contact within the basin walls. Avoid big folds or air pockets in the bottom and sides of the basin. If this does not correct the problem, contact ORS.

Problem: Solution temperature has unusual fluctuation readings.

O.R. Solution: The drape should be evenly distributed and in full contact within the basin walls. If the solution temperature still shows unusual fluctuation, contact ORS.

Problem: Small amount of water left in the basin after use.

O.R. Solution: It is normal for a small amount of water to remain in the basin due to condensation. Dry the basin with a lint free cloth and isopropyl alcohol as per maintenance instructions on page 4.

WARNING: If the Solution Warmer does not operate properly, contact ORS.

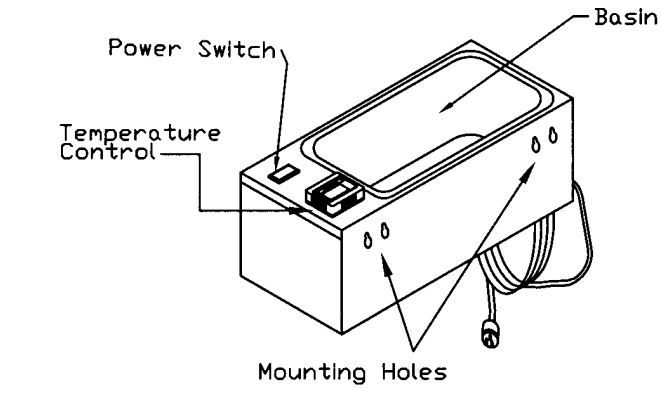
O.R. Solutions, Inc., can be contacted by telephone at (800) 343-6771
3901 Centerview Drive, Suite L, Chantilly, VA 20151

SPECIFICATIONS

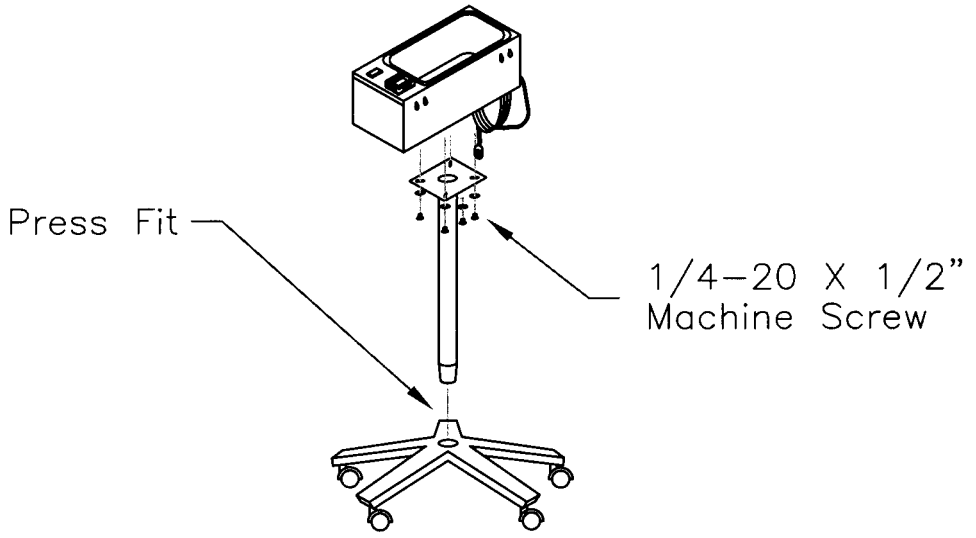
ORS-2000 Series Irrigation Solution Warmer

Power:	115 VAC; 2A 50-60 H (230 VAC optional)
Fuse:	2X; 3A Slo-Blo type
Normal Temperature Range:	Room temperature to 120° F (49 °C)
Temperature Variance:	+/-2° F (1 °C)
Temperature Control:	Microprocessor temperature controller; LED readout of temperature and Set Point temperature.

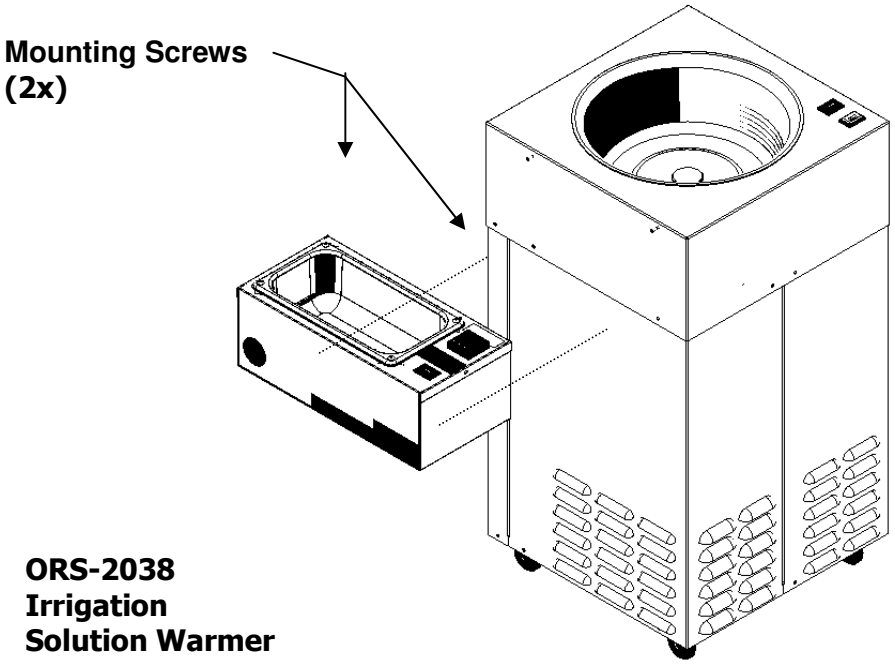
Model	Capacity		Bowl Dimensions
ORS-2038	3.8 Liters		11½" x 5¾" x 4"
ORS-2057	5.7 Liters		19⅛" x 5¼" x 4"
ORS-2058	5.8 Liters		11½" x 5¾" x 6"
ORS-2066	6.6 Liters		11½" x 9¼" x 4"
ORS-2075	7.5 Liters	(Round Basin)	14 ½"(O.D.) x 4 ¾"
ORS-2094	9.4 Liters		11½" x 9¼" x 6"



MOUNTING INSTRUCTIONS



1. Assembling ORS-2000 Series Solution Warmer with the ORS-S21 or ORS-S22 Stand.



ORS-2038
Irrigation
Solution Warmer

2. Mounting of ORS-2038 Solution Warmer to ORS-1075HS Slush Machine.